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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,108	08/24/2004	Charles Steven Korman	147903-1	5107

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GENERAL ELECTRIC COMPANY
GLOBAL RESEARCH
PATENT DOCKET RM. BLDG. K1-4A59
NISKAYUNA, NY 12309

EXAMINER	
TRINH, THANH TRUC	
ART UNIT	**PAPER NUMBER**
1795	

NOTIFICATION DATE	DELIVERY MODE
01/23/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/711,108	KORMAN, CHARLES STEVEN	
	Examiner	Art Unit	
	THANH-TRUC TRINH	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 November 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/24/2008 has been entered.

Remark

2. Claims 1-28 are pending in the application.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As amended, independent claims 1 and 15 recite the limitation “a metal foil having a first surface and a second surface opposite the first surface, the first surface of the metal foil bonded to said insulative substrate and the second surface including a interconnection pattern for electrically interconnecting a plurality of solar cells in series, the interconnection pattern comprising an edge connector and a series string, the series string in electrical contact with pads located on a same side of each solar cell such that electrical current from each solar cell is transported to the edge connector" in lines 4-11 of claim 1 and in lines 9-16 of claim 15. There is no support for the limitation in the originally filed disclosure. There is nothing in Applicant's specification describing a second surface of a metal foil including an interconnection pattern comprising an edge connector and a series string, and the series string in electrical contact with pads. As a matter of fact, the series string is described as the whole solar cell module 44 and the interconnect pattern 46 is in the series string. (See Figure 3 and paragraphs 0020-0021 of Applicant’s disclosure). The claims are treated herein as though they require a metal foil having a interconnection pattern on the second surface for electrically interconnecting a plurality of solar cells in series, an edge connector such that electrical current from each solar cell is transported to the edge connector, a plurality of solar cells being connected in series by pads located on a same side of each solar cell.

Claims 2-14 and 16-28 are rejected on the same ground.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As amended, independent claims 1 and 15 recite the limitation “a metal foil having a first surface and a second surface opposite the first surface, the first surface of the metal foil bonded to said insulative substrate and the second surface including a interconnection pattern for electrically interconnecting a plurality of solar cells in series, the interconnection pattern comprising an edge connector and a series string, the series string in electrical contact with pads located on a same side of each solar cell such that electrical current from each solar cell is transported to the edge connector" in lines 4-11 of claim 1 and in lines 9-16 of claim 15. It is unclear what is being claimed or described. The claims are treated herein as though they require a metal foil having a interconnection pattern on the second surface for electrically interconnecting a plurality of solar cells in series, an edge connector such that electrical current from each solar cell is transported to the edge connector, a plurality of solar cells being connected in series by pads located on a same side of each solar cell

Claims 2-14 and 16-28 are rejected on the same ground.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 1-3, 7-12, 15-17 and 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cole (US Patent 6008449) in view of Evans Jr. et al. (US Patent 4341918)

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Regarding claim 1, as seen in Figure 5, Cole discloses a solar cell assembly comprising an insulative substrate (26); a metal foil (or reflective layer 48) bonded to the insulative substrate on a first surface and electrically receptive for mounting a solar cell (22) on a second surface opposite the first surface, wherein the metal foil including a light concentrator (patterned regions between solar cells 22) disposed at exposed regions on the second surface of the metal foil, the light concentrator configured to reflect incident light thereon to the solar cell (See Figures 1, 3 and 5; col. 9 lines 22-67; col. 5 lines 54-56). Cole teaches the metal foil (48) connecting solar cells as seen in Figure 5, therefore the metal foil is to provide an interconnection pattern for mounting solar cells on a second surface.

Cole does not teach an edge connector and a plurality of solar cells connected in series by pads located on a same side of each solar cell

Evans Jr. et al. teaches a solar cell having edge connectors, or wraparound contacts 40 so that the interconnection can be made from any point on the contacts, or on the same side of each solar cell (See Figure 2).

It would have been obvious to one skilled in the art at the time the invention was made to modify the solar cell assembly of Cole by incorporating edge connectors as taught by Evans Jr. et al., because Evans Jr. et al. teaches such edge connectors are used to make connection to the cells at the edges of the assembly. (See col. 6 lines 38-55). Since the edge connectors of Evans Jr. et al. are used as electrical contacts as seen in Figure 2; therefore, in the combination of Cole in view of Evans Jr. et al., a plurality of solar cells can obviously be connected in series by pads (or wraparound contacts 40) on a same side (e.g. the bottom side) of each solar cell.

Regarding claims 2-3, Cole teaches the substrate (26) is made of acrylic decal (See col. 5 lines 23-26). Therefore it is the Examiner's position that the substrate comprises a flexible polymeric substrate.

Regarding claim 7, Cole teaches the metal foil (or metallic reflective layer 48) is made of electrically conductive metal (See col. 5 lines 54-56 and col. 9 lines 22-67). Coles also teaches the material used is low cost (See col. 3 line 54 to col. 4 line 44). Therefore it is the Examiner's position that metal foil is a conductive metal foil selected on a basis of cost, electrical and thermal performance.

Regarding claim 8, Cole teaches the metal foil (or metallic reflective layer 48) is electrically conductive and bonded directly to the substrate of the solar cells at a bond site 72b. (See Figure 5 and col. 9 lines 22-46). Therefore it is the Examiner's position that the metal foil (or metallic reflective layer 48) is patterned to match at least an interconnection configuration of the solar cell and a PV laminate module.

Regarding claims 9-12, Cole teaches the metal foil (or metallic reflective layer 48) is made of metal and electrically conductive (See col. 5 lines 54-56 and col. 9 lines 22-67). Therefore it is the Examiner's position that the metal foil (or metallic reflective layer 48) is configured to provide a low resistance interconnection of a plurality of solar cells while providing a thermal sink for heat generated by each cell, the heat generated by at least one of the solar cells and absorbed solar radiation internal to the module is channeled to an edge defining module via the metal foil, and the edge defining module is configured to dissipate the generated heat by one of radiation and convection. It is also the position of the Examiner's that the metal foil (or metallic reflective layer 48) functions as an electrical conductor, thermal conductor, and an optical reflector.

Regarding claim 15, as seen in Figure 5, Cole teaches a solar cell laminate assembly comprising a plurality of solar cells (22 such as 22a, 22b…) each having a first side and a second side, each of said plurality solar cells configured to produce an electrical current when receiving photons on at least the first side; an encapsulant (support layer 28) operably couple to the first side of each of said plurality of solar cells; an insulative substrate (26) operably coupled to the second side of each of the plurality

of solar cells; and a metal foil (metallic reflective layer 48) bonded to the insulative substrate on a first surface and electrically receptive for mounting a solar cell on a second surface opposite said first surface, wherein the metal foil includes a light concentrator (or portion with patterned surface) disposed at exposed regions on the said second surface of the metal foil. Coles teaches the metal foil (48) is placed between solar cells to connect solar cells together as seen in Figure 5, therefore the metal foil (48) is to provide an interconnection pattern for mounting solar cells.

Cole does not teach an edge connector and a plurality of solar cells connected in series by pads located on a same side of each solar cell

Evans Jr. et al. teaches a solar cell having edge connectors, or wraparound contacts 40 so that the interconnection can be made from any point on the contacts, or on the same side of each solar cell (See Figure 2).

It would have been obvious to one skilled in the art at the time the invention was made to modify the solar cell assembly of Cole by incorporating edge connectors as taught by Evans Jr. et al., because Evans Jr. et al. teaches such edge connectors are used to make connection to the cells at the edges of the assembly. (See col. 6 lines 38-55). Since the edge connectors of Evans Jr. et al. are used as electrical contacts as seen in Figure 2; therefore, in the combination of Cole in view of Evans Jr. et al., a plurality of solar cells can obviously be connected in series by pads (or wraparound contacts 40) on a same side (e.g. the bottom side) of each solar cell.

Regarding claims 16-17, Cole teaches the substrate (26) is made of acrylic decal (See col. 5 lines 23-26). Therefore it is the Examiner's position that the substrate comprises a flexible polymeric substrate.

Regarding claim 21, Cole teaches the metal foil (or metallic reflective layer 48) is made of electrically conductive metal (See col. 5 lines 54-56 and col. 9 lines 22-67). Coles also teaches the material used is low cost (See col. 3 line 54 to col. 4 line 44). Therefore it is the Examiner's position that metal foil is a conductive metal foil selected on a basis of cost, electrical and thermal performance.

Regarding claim 22, Cole teaches the metal foil (or metallic reflective layer 48) is electrically conductive and bonded directly to the substrate of the solar cells at a bond site 72b. (See Figure 5 and col. 9 lines 22-46). Therefore it is the Examiner's position that the metal foil (or metallic reflective layer 48) is patterned to match at least an interconnection configuration of the solar cell and a PV laminate module.

Regarding claims 23-26, Cole teaches the metal foil (or metallic reflective layer 48) is made of metal and electrically conductive (See col. 5 lines 54-56 and col. 9 lines 22-67). Therefore it is the Examiner's position that the metal foil (or metallic reflective layer 48) is configured to provide a low resistance interconnection of a plurality of solar cells while providing a thermal sink for heat generated by each cell, the heat generated by at least one of the solar cells and absorbed solar radiation internal to the module is channeled to an edge defining module via the metal foil, and the edge defining module is configured to dissipate the generated heat by one of radiation and convection. It is

also the position of the Examiner's that the metal foil (or metallic reflective layer 48) functions as an electrical conductor, thermal conductor, and an optical reflector.

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8. Claims 4-6, 13, 18-20 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cole (US Patent 6008449) in view of Epstein et al. (US Patent Application 20030058553).

Cole teaches a photovoltaic assembly as described in claims 1 and 15 above.

Cole does not teach coating the metal foil (24) with a reflective coating such as reflective ink of colloidal of glass spheres in an optical transparent binder.

Epstein et al teaches a light directing film (or for reflecting light) having metal coating film (130 in Figure 3, 230 in Figure 5) on a patterned surface (114 in Figure 3, 214 in Figure 5), wherein the metal coating film is overlain by a layer (135 in Figure 3 and 235 in Figure 5) of glass beads in polymethyl-methacrylate (136 in Figure 3 and 236 in Figure 5). (See paragraphs 0101-0107 and 0112-0118). It is the Examiner's position that polymethyl-methacrylate is an optically transparent binder.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the assembly of Cole by coating the metal layer (or metal foil 24) with a reflective ink of ink of glass beads (or colloidal suspension of glass spheres) in polymethyl-methacrylate (or optically transparent binder) as taught by Epstein et al., because Epstein et al. teaches that the glass beads in polymethyl-methacrylate layer would improve the performance and durability of the reflective metal coating (See paragraphs 0083-0088). In addition, because both Cole and Epstein et al

are concerning with reflecting light, one would have reasonable expectation of success from the combination.

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9. Claims 14 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cole (US Patent 6008449) in view of Glenn (US Patent 6313396).

Cole teaches a photovoltaic assembly as described in claims 1 and 15 above.

Cole does not teach the substrate includes a plurality of metallized vias to allow dissipation of heat therethrough.

Glenn teaches a photovoltaic assembly having a substrate (18, Figures 1, 3A-B, 4-5) with vias (or openings 22 as seen in Figure 22) filled with metal (conducting element 17- See Figures 1, 3A-B, 4-5; col. 4 line 10 through col. 6 line 44). Therefore it is the position of the Examiner that Glenn teaches a substrate includes a plurality of metallized vias to allow dissipation of heat therethrough.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the assembly of Cole to include a plurality of metallized vias to allow dissipation of heat therethrough as taught by Glenn, because Glenn teaches the photovoltaic assembly with such substrate is lightweight and inexpensive to manufacture. (See col. 8 lines 63-67).

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10. Claims 1-3, 7-12, 15-17 and 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coleman et al. (US Patent 4045245) in view of Cole (US Patent 6008449) and Stein et al. (US Patent 5071491)

Regarding claims 1 and 15, as seen in Figures 1-2, Coleman et al. teaches a solar cell package comprising a plurality of solar cells (18, 20, 22, 24 etc...) each having a first side and a second side and configured to produce an electrical current when receiving photons on the first side (or the top side); an encapsulant (cover plate 16) operably coupled to the first side (or the top side) of each solar cell; a substrate (or ridges 58) operably coupled to the second side (or the bottom side) of each of the plurality of solar cells for providing structural strength; a conductive sheet or foil (including 30 and 32) having a first surface (or bottom surface) bonding to the substrate (or ridges 58), wherein the metal foil is used to interconnect a plurality of solar cell in series by means of conductor 36 and 44 (or pads) on a same side (bottom side) of each solar cell; edge connectors (or the sides 13 of metal back member 12). (See col. 2 line 5 through col. 5 line 20).

Coleman et al. does not specifically teach the substrate being insulative, the conductive sheet being a metal foil, or exposing a region of metal foil having pattern for reflecting light, or the electrical current from each solar cell transported to the edge connector.

Cole teaches a metal foil (reflective layer 48) bonded to an insulative substrate (26), wherein the metal foil is patterned and exposed to light for concentrating light. (See Figure 5, col. 9 lines 22-67, col. 5 lines 54-56).

Stein et al. teaches the electrical current from each solar cell transported to the edge connector (or electrical conductive frame - See the whole document).

It would have been obvious to one skilled in the art at the time the invention was made to modify the solar cell package of Coleman et al. by having an insulative substrate, a metal foil having a patterned region exposed to light for concentrating to light as taught by Cole, and having the electrical current from each solar cell transported to the edge connector as taught by Stein et al.; because Cole finds that insulative substrate and metal foil are suitable material for structural support and conducting material and concentrating light back to solar cells would increase the efficiency (col. 4 lines 45-68 of Cole et al.), and Stein et al. teaches that transporting electrical current to the frame (or edge connector) would reduces the number of interconnection required in the overall device (See Abstract of Stein et al.)

Regarding claims 2-3 and 16-17, Cole teaches the substrate (26) is made of acrylic decal (See col. 5 lines 23-26). Therefore it is the Examiner's position that the substrate comprises a flexible polymeric substrate.

Regarding claims 7 and 21, Cole teaches the metal foil (or metallic reflective layer 48) is made of electrically conductive metal (See col. 5 lines 54-56 and col. 9 lines 22-67). Coles also teaches the material used is low cost (See col. 3 line 54 to col. 4 line 44). Therefore it is the Examiner's position that metal foil is a conductive metal foil selected on a basis of cost, electrical and thermal performance.

Regarding claims 8 and 22, Cole teaches the metal foil (or metallic reflective layer 48) is electrically conductive and bonded directly to the substrate of the solar cells at a bond site 72b. (See Figure 5 and col. 9 lines 22-46). Therefore it is the Examiner's

position that the metal foil (or metallic reflective layer 48) is patterned to match at least an interconnection configuration of the solar cell and a PV laminate module.

Regarding claims 9-12 and 23-26, Cole teaches the metal foil (or metallic reflective layer 48) is made of metal and electrically conductive (See col. 5 lines 54-56 and col. 9 lines 22-67). Therefore it is the Examiner's position that the metal foil (or metallic reflective layer 48) is configured to provide a low resistance interconnection of a plurality of solar cells while providing a thermal sink for heat generated by each cell, the heat generated by at least one of the solar cells and absorbed solar radiation internal to the module is channeled to an edge defining module via the metal foil, and the edge defining module is configured to dissipate the generated heat by one of radiation and convection. It is also the position of the Examiner's that the metal foil (or metallic reflective layer 48) functions as an electrical conductor, thermal conductor, and an optical reflector.

11. Claims 4-6, 13, 18-20 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coleman et al. in view of Cole and Stein et al., and further in view of Epstein et al. (US Patent Application 20030058553).

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Coleman et al. in view of Cole and Stein et al. teaches a solar cell package as described in claims 1 and 15 above.

Coleman et al. in view of Cole and Stein et al. does not teach coating the metal foil (24) with a reflective coating such as reflective ink of colloidal of glass spheres in an optical transparent binder.

Epstein et al teaches a light directing film (or for reflecting light) having metal coating film (130 in Figure 3, 230 in Figure 5) on a patterned surface (114 in Figure 3, 214 in Figure 5), wherein the metal coating film is overlain by a layer (135 in Figure 3 and 235 in Figure 5) of glass beads in polymethyl-methacrylate (136 in Figure 3 and 236 in Figure 5). (See paragraphs 0101-0107 and 0112-0118). It is the Examiner's position that polymethyl-methacrylate is an optically transparent binder.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the assembly of Coleman et al. in view of Cole and Stein et al. by coating the metal layer (or metal foil 24) with a reflective ink of ink of glass beads (or colloidal suspension of glass spheres) in polymethyl-methacrylate (or optically transparent binder) as taught by Epstein et al., because Epstein et al. teaches that the glass beads in polymethyl-methacrylate layer would improve the performance and durability of the reflective metal coating (See paragraphs 0083-0088). In addition, because both Cole and Epstein et al are concerning with reflecting light, one would have reasonable expectation of success from the combination.

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12. Claims 14 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coleman et al. in view of Cole and Stein et al., and further in view of Glenn (US Patent 6313396).

Coleman et al. in view of Cole and Stein et al. teaches a solar cell package as described in claims 1 and 15 above.

Coleman et al. in view of Cole and Stein et al. does not teach the substrate includes a plurality of metallized vias to allow dissipation of heat therethrough.

Glenn teaches a photovoltaic assembly having a substrate (18, Figures 1, 3A-B, 4-5) with vias (or openings 22 as seen in Figure 22) filled with metal (conducting element 17- See Figures 1, 3A-B, 4-5; col. 4 line 10 through col. 6 line 44). Therefore it is the position of the Examiner that Glenn teaches a substrate includes a plurality of metallized vias to allow dissipation of heat therethrough.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the package of Coleman et al. in view of Cole and Stein et al. to include a plurality of metallized vias to allow dissipation of heat therethrough as taught by Glenn, because Glenn teaches the photovoltaic assembly with such substrate is lightweight and inexpensive to manufacture. (See col. 8 lines 63-67).

Response to Arguments

Applicant's arguments with respect to claims 1-28 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to whose telephone number is (571)272-6594. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nam X Nguyen/
Supervisory Patent Examiner, Art Unit 1753

TT
1/3/2009